

INTRODUCTION

On February 1, 2001, NSTAR Gas Company (“NSTAR Gas” or the “Company”) submitted to the Department of Telecommunications and Energy (“Department”) a proposed energy efficiency program plan for the three-year period commencing on May 1, 2001, and ending on April 30, 2004 (the “Pre-Approval Period”). As part of its plan, the Company detailed its comprehensive energy efficiency programs and marketing initiatives for residential, low-income and commercial and industrial (“C&I”) customers. Moreover, the Company provided the Department with its proposed budget for those programs. As a result of extensive negotiations and collaboration among the Company, the Massachusetts Division of Energy Resources (“DOER”), the Low Income Energy Affordability Network (“LEAN”), and the Department’s Settlement Intervention Staff (collectively, the “Parties”), the Parties submitted to the Department a Joint Motion for Approval of a Settlement Agreement, which was approved on September 27, 2001. Incorporated within the Settlement Agreement is a description of the energy efficiency programs to be offered by NSTAR Gas and the amounts to be expended by the Company to provide each of those programs. The Parties agreed that NSTAR Gas would file with the Department and DOER an annual report summarizing the Company’s experience with its energy efficiency programs, including the number of customers participating in each program and the level of savings achieved per program.

PROGRAM EXPERIENCE IN 2002¹

NSTAR Gas operated a number of comprehensive energy efficiency programs and market transformation initiatives targeting residential, low-income and C&I customer sectors during the program year 2002. The programs represented a concerted effort by the Company to offer a portfolio of programs and services to its customers that overcome market barriers and seek to transform markets for energy efficiency.

Residential Programs - During 2002 NSTAR Gas offered the following residential energy efficiency programs and initiatives:

- the ENERGY STAR® Clock Thermostat Rebate Program,
- the ENERGY STAR® Homes Program,
- the High Efficiency Heating Rebate Program,
- the High Efficiency Water Heating Rebate Program,
- the Weatherization Program,
- Massachusetts Building Code Support, and
- Market Transformation efforts.

Each of these programs is described in further detail below.

¹ The program year 2002 ran from May 1, 2002 to April 30, 2003.

ENERGY STAR® Clock Thermostat Rebate Program

The Company's ENERGY STAR® Clock Thermostat Rebate Program offers a mail-in rebate on ENERGY STAR®-rated programmable setback thermostats. During the program year 2002, NSTAR Gas conducted various marketing efforts to promote the use and installation of these thermostats. The promotion included a market-based competitive retailer rebate program (e.g., home-goods retailers) as well as integrating the rebate offer as a "piggyback" incentive offered through the Residential Conservation Service/Massachusetts Home Energy Services ("RCS/MHES") program. The Company also offered a mail-order program during the program year. As programmable thermostats have become more user-friendly and product availability has increased, the Company is able to positively impact this market.

ENERGY STAR® Homes Program

The ENERGY STAR® Homes program, which promotes energy efficient heating and water heating products in new home construction, continues to produce favorable results. During 2002, the program experienced impressive growth in line with the increase in market share of ENERGY STAR® homes in Massachusetts. This jointly sponsored gas/electric program partnership clearly demonstrates the strength and advantages of gas and electric utilities working together whenever possible to promote market transformation based energy efficiency programs.

High Efficiency Heating Rebate Program

The High Efficiency Heating Rebate Program continues to be successful promoting the installation of energy efficient natural gas heating equipment through the use of mail-in rebates. The rebate level for furnaces decreased from \$300 to \$200 in September 2002. Lowering this rebate level is a result of the sustained and continued growth of high efficiency furnaces in the marketplace, thereby signifying success in transforming the high efficiency furnace market. However, high efficiency forced hot water boiler installations are significantly lower in comparison. In an attempt to stimulate this market and to partially offset the high incremental cost between standard efficiency and high efficiency boilers, the rebate level was increased from \$400 to \$500 in September 2002.

High Efficiency Water Heating Rebate Program

The number of rebates processed for 2002 was on target with the goal for the Company's Residential High Efficiency Water Heating Rebate Program, which offers mail-in rebates on natural gas water heaters. The Company plans on continuing retailer marketing to improve penetration levels individually and regionally through GasNetworks^{SM2} in 2003, but recognizes market transformation of the residential hot water heating market will be gradual as well as challenging. This can be attributed to lack of consumer/contractor education, lack of product availability, and reluctance by contractors to make the extra

² A Massachusetts Natural Gas DSM/Market Transformation Collaborative, referred to as GasNetworks. GasNetworks programs are offered as components of the Company's residential and C&I programs.

effort needed to sell consumers equipment that is more expensive. It has also been recognized that the physical dimensions of the qualifying units often limit a replacement application. In an effort to better understand and increase market share penetration, the Company, in conjunction with GasNetworks, initiated the *High Efficiency Water Heater Market Assessment and Baseline Study* in the first quarter of 2003. The Company will use the results from this study to develop future program strategies.

Weatherization Program

The Residential Weatherization Program offers a subsidy to customers for installing insulation and air sealing measures. In an effort to increase participation levels and measure installations for the 2002 program year, NSTAR Gas developed a competitive contractor rebate option in addition to the RCS/MHES delivery mechanism. Currently there are 17 contractors throughout the Company's service territory who have been approved by the Company to offer the weatherization rebate to NSTAR Gas customers. Due to this contractor driven effort, as well as a much colder heating season, participation levels have improved significantly. In program year 2001 there were only 30 participants in this program, while in program year 2002 there were 262 participants.

Massachusetts Building Code Support

The Company continued to promote and support the Massachusetts Building Code in cooperation with the Board of Building Regulations and Standards during program year 2002. To this end, the Company, in conjunction with GasNetworks, provides support for residential and commercial code revisions through training materials, contractor education and outreach assistance. Further, the Company sponsored builder code and contractor education through field training manuals for the residential new construction builder network in program year 2002 as well as conducted a Company sponsored training seminar for builders and code officials.

Market Transformation Efforts

This category encompasses various Company marketing activities, program development and contractor training promotions in conjunction with GasNetworks. In program year 2002, the Company and GasNetworks continued developing and maintaining partnerships with equipment manufacturers, plumbing supply houses and home-goods retailers. As a result, NSTAR Gas, through GasNetworks, has point-of-purchase displays promoting the various rebate programs in all Sears and Home Depot stores and in numerous plumbing supply houses in its territory. The Company, in conjunction with GasNetworks, continued to seek opportunities to train contractors by sponsoring training sessions offered by major heating equipment and controls manufacturers such as Weil-McLain Boiler Company and Honeywell Inc. NSTAR Gas plans to continue expanding the training seminar curriculums and nurturing manufacturer/distributor relationships as a means to promote energy efficiency and market transformation in the wholesale and retail marketplace. Further, the Company will continue to promote GasNetworks activities and evaluate opportunities for program development as new technologies evolve such as the

new dual electric/gas utility furnace rebate for high efficiency blower motors scheduled for introduction in the second quarter of 2003.

A summary of the budgeted and actual expenditures in the residential sector during the program year 2002 is included in Exhibit 1. Also included in Exhibit 1 is production and savings information for each of the programs.

Low-Income Programs - Also in 2002, the Company offered the following low-income energy efficiency programs (consisting of both residential low-income and C&I multi-family low-income components):

- the Residential Low-Income Single Family Program, and
- the C&I Low-Income Multi-Family Program.

Each of these programs is described in further detail below.

Residential Low-Income Single-Family Program

This program offers weatherization measures to customers with incomes at or below 60% of the median income level in the state of Massachusetts. The weatherization services available include an energy audit, attic insulation, wall insulation, air-sealing, heating system repair/replacement (on a qualifying basis) and safety inspections.

C&I Low-Income Multi-Family Program

This program offers weatherization measures to master-metered multi-family dwellings that are on a commercial rate and house low-income residents with incomes at or below 60% of the median income level in the state of Massachusetts. The weatherization services available include an energy audit, attic insulation, wall insulation, air-sealing, heating system replacement (on a qualifying basis) and safety inspections.

The Company continued to coordinate its efforts in both the residential and C&I sectors with the non-profit, weatherization assistance program agencies in its service territory and provided a maximum of up to two percent (2%) of its low-income expenditures to LEAN in order to provide coordination and program services to benefit low-income customers. Also, as part of the Settlement Agreement, the Parties agreed to an enhanced low-income program budget and accordingly updated the budget allocations originally set forth in the February 1, 2001 Filing.³

A summary of the budgeted and actual expenditures in the low-income sector during the program year 2002 is included in Exhibit 1. Also included in Exhibit 1 is production and savings information for each of the programs.

³ In the Company's original three-year plan filed on February 1, 2001, NSTAR Gas proposed a total low-income budget of \$894,000 for the program year 2003. In the Settlement Agreement, the Parties agreed to a low-income budget of \$1,000,000 for the program year 2003.

Commercial & Industrial Programs- During the program year 2002, NSTAR Gas strengthened its C&I gas energy efficiency capabilities by adding a ‘dedicated’ gas program manager and an individual to assist in the marketing of the Company’s energy efficiency programs to prospective users.

The Company offered the following C&I energy efficiency programs during 2002 to all eligible customers except those on the G-53 rate:

- the Custom Program,
- Small Business Programs (the Infrared Rebate Program, the High Efficiency Heating Rebate Program and the High Efficiency Water Heating Program),
- the Building Operators Certification Program,
- Massachusetts Building Code Support, and
- Market Transformation efforts.

Each of these programs is described in further detail below.

Custom Program

The Custom Program offers incentives to eligible C&I customers for the installation of high efficiency equipment and “new technologies” for both time-dependent and retrofit applications. NSTAR Gas field sales representatives assisted Energy Efficiency Program Managers in identifying potential Custom Program customer candidates, thereby broadening the Company’s Energy Efficiency outreach capabilities. These efforts to reach business customers resulted in approved and completed projects that met their needs. These efforts also resulted in lower than anticipated project costs and program incentives, and therefore, in lower than anticipated overall program expenditures. Going forward, the Company will continue to market this program to its customers, contractors, and vendors. Further, in an effort to promote new technologies and demonstrate their successes, the Company developed a case study of a condominium condensing boiler retrofit project which was published in Natural Solutions, a publication of the New England Gas Association.

The Company also provided professional engineering analyses of customers’ projects as a means to increase program participation and minimize the risk of lost opportunities. The purpose of these technical analyses is to document the economics and gas energy savings potential of specific alternative proposed energy efficiency measures. These analyses were undertaken for customers under both no cost and shared cost arrangements and successfully contributed to increased participation and measure implementation.

During 2003, the Company will explore the effectiveness of using one or more vendors to perform C&I energy efficiency project identification and rebate administration in order to augment its custom project development efforts.

Small Business Programs

In conjunction with GasNetworks, the Company offered small C&I customers the Infrared Rebate Program, the High Efficiency Heating Rebate Program, and the High Efficiency Water Heating Rebate Program.

The **Infrared Rebate Program** provides business customers with rebates for the installation of qualifying, low intensity infrared equipment. During the program year 2002, the Company met over two thirds of its infrared rebate goal and expects to exceed its program year 2003 goal through targeted informational mailings and customer visits focusing on manufacturers, auto repair stations and storage facilities. The Company also expects to capitalize on improved equipment vendor relationships strengthened during this program year.

The **High Efficiency Heating Rebate Program** provides small C&I customers a financial incentive for the installation of ENERGY STAR®-rated, high efficient heating equipment. This program enticed a number of customers to choose the more energy efficient alternative, allowing the Company to exceed its goal. Also during the 2002 program year, municipalities uniformly began to struggle with State-imposed budgetary curtailments, making energy efficiency investments more attractive, particularly high-efficiency gas heating. This is expected to generate increased levels of municipal energy efficiency investment activity during the coming year. As a result, the Company will continue its small C&I marketing efforts, contractor-training initiatives, and other endeavors individually and regionally through GasNetworks to further market transformation in the heating market.

The **High Efficiency Water Heating Rebate Program** provides eligible small C&I customers a rebate for the installation of qualifying high efficient natural gas fired water heaters, high efficiency indirect fired water heaters, or high efficiency integrated furnace/hot water combo units. The program produced significantly better than anticipated results for the Company in 2002 due to increased interest in the program by municipal housing authorities. As a result, the Company plans to strengthen its municipal marketing efforts in 2003 while recognizing that the market transformation of the small C&I hot water heating market will be gradual as well as challenging. In an effort to better understand and increase market share penetration, the Company, in conjunction with GasNetworks, initiated the *High Efficiency Water Heater Market Assessment and Baseline Study* in the first quarter of 2003. The Company will use the results from this study to develop future program strategies.

Building Operators Certification Program

The Company continued its support for education and training initiatives through the Building Operators Certification Program. Administered by the Northeast Energy Efficiency Partnership, the Building Operator Certification Program provides certification awards to students who successfully complete eight full days of classroom instruction, seven hours of testing, and five special homework assignments specific to

energy efficient building operation and effective maintenance processes. During 2002, NSTAR supported this program by providing tuition subsidies, use of Company facilities for training and promoting the program to prospective participants.

Massachusetts Building Code Support

For a further description of the Company's support for the Massachusetts Building Code, please refer to the Residential Programs section above.

Market Transformation Efforts

For a description of the Company's Market Transformation efforts, please refer to the Residential Programs section above. In addition to these efforts, the Company plans to offer a pilot program in 2003 in the C&I sector for restaurants and other food service facilities that install qualifying deep fat fryers. For further details on this pilot program please refer to Exhibit 4 - Market Transformation.

A summary of the budgeted and actual expenditures in the C&I sector during the program year 2002 is included in Exhibit 1. Also included in Exhibit 1 is production and savings information for each of the programs.

In summary, the Company's energy efficiency efforts during the twelve months (May 2002 - April 2003) continued to be successful. The Company achieved 708,093 of therm savings in the residential, low-income and C&I sectors during this period. This strong performance reflects the Company's continued commitment to implementing energy efficiency programs and market transformation initiatives in the most cost-effective manner possible

PROGRAM CHANGES IN 2003

With the exception of the Building Operators Certification Program (see Exhibit 4), NSTAR Gas will continue to offer each of the programs described above in 2003. For a complete list of changes to NSTAR Gas programs in the residential, low-income and C&I sectors see Exhibits 2, 3 and 4, respectively.

PROGRAM BUDGET FOR 2003⁴

In addition to the 2002 expenditures for the Company's Residential, Low-Income and C&I energy efficiency programs (including market transformation initiatives) described above, the Parties agreed that in year three of the Pre-Approval Period (i.e., the 12-month period commencing May 1, 2003), the total amount of the Company's pre-approved energy efficiency budget would be increased by an incremental amount of \$1,000,000 compared with year one. The Parties further agreed that the Company would have the flexibility to

⁴ The program year 2003 runs from May 1, 2003 to April 30, 2004.

allocate such incremental amount to cost-effective programs and initiatives it deemed appropriate.

The Company's 2003 program year budget is summarized in Exhibit 5.

COST-EFFECTIVENESS ANALYSIS

Exhibit 6 summarizes the results of the program cost-effectiveness analysis for the energy efficiency programs offered by NSTAR Gas. The analysis was conducted in accordance with the guidelines established in D.T.E. 98-100, and all programs were found to be cost-effective.

NSTAR Gas has reviewed the current model assumptions and updated the energy efficiency program budgets, as well as program participation. Exhibit 6 provides the net present value of benefits and costs and benefit-cost ratios ("BCRs") for the entire portfolio of NSTAR Gas energy efficiency programs (both Company and regional programs combined). Cost-effectiveness results for all programs combined show an overall portfolio BCR of 3.30.

Programs that are primarily informational and/or educational in nature were not screened individually because the primary objective of these programs is to increase customer awareness of the importance and benefits of energy efficiency and encourage them to make decisions and act on the basis of this awareness. Where NSTAR Gas has separate informational, educational, or marketing based programs (e.g., Code Support and Market Transformation), the costs associated with these efforts were included in the overall portfolio of programs.

For each of the programs where cost-effectiveness analysis was conducted, NSTAR's screening model was used. The NSTAR model was developed under NSTAR sponsorship in collaboration with the non-utility parties that participate in the NSTAR Electric Energy Efficiency Collaborative. Screening is conducted using a Total Resource Cost Test, as specified by the Department in D.T.E. 98-100.

The NSTAR model is an Excel spreadsheet-based tool. The key feature of the model is its ability to include estimated market effects resulting from a utility-sponsored energy efficiency program in the benefit cost analysis. The model includes the effects of direct program participation as well as market spillover.

The following costs and benefits are accounted for in the analysis:

Energy System Costs, which include all utility direct implementation costs.

Program Participant Costs, which include all expenses incurred directly by customers as a result of participation in the energy efficiency program.

Energy System Benefits, which include avoided gas supply, transmission, and distribution costs and reductions in administrative costs associated with low-income benefits to the utility systems. The estimated value of avoided gas supply costs are based on an analysis of avoided energy supply components for most of the gas utilities serving New Hampshire and Rhode Island, as well as the Massachusetts utilities. This analysis is documented in the December 6, 2001 report entitled *Updated Avoided Energy-Supply Costs for Demand-Side-Management Screening in New England*. The estimated value of avoided electric transmission and distribution costs, where applicable, is based on a marginal cost study of the incremental cost to serve load on the NSTAR Electric's transmission and distribution systems.

Program Participant Benefits, which include quantifiable savings of fossil fuels and water consumption, avoided replacement costs of equipment, and health and safety benefits realized by low-income program participants. There may be other such benefits, which have not been quantified at this time.

The program costs and benefits are discounted at a real rate of 2.62 percent. This value is calculated based on an annual discount rate of 5.19 percent⁵ and using the currently projected average long-term inflation rate of 2.5 percent.

2003 PERFORMANCE INCENTIVES

The Company's 2003 Performance Metrics and Incentives are summarized in Exhibit 7. These metrics, and the corresponding incentives, were developed in accordance with the methodology set forth in Section 5 of the Departments Final Guidelines in D.T.E. 98-100.

⁵ Based on a forecast of the January 2, 2003 yield on 30-year United States Treasury Bonds, equal to the year-weighted average "ask yield" for regular Treasury Bonds maturing more than 20 years from now (Wall Street Journal August 13, 2002).